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Stated Meeting, June 16, 1865.

Present twenty members.

President, Dr. Wood, in the chair.

A letter was received from a committee of the Kensington Lodge, No. 11, I. O. of O. F., dated April 19, 1865, embracing the following preamble and resolutions:

Whereas, Our land and nation has been horrified by the cool and deliberate murder of Abraham Lincoln, President of the United States, at the hands of a desperate and bloody assassin, for no other cause than his unceasing efforts to re-establish the authority of the nation over the whole length and breadth of our wide domain, at a time when every patriot heart was filled with joy at the near prospect of peace, through the valor of our sons and our brothers upon the battle-field, while armed treason was bowing its head to the power of the nation, and trailing its hated flag in the dust; and

Whereas, As a part of that free people who placed in his hands the power with which he was intrusted for the good of the whole, we claim the right of expressing our grief at this national calamity, in the loss to the nation of a good kind heart, whose every beat was filled with love to his native land, and whose charity was wide enough to enfold every repentant sinner against the integrity of the government within its embrace; and of expressing our condolence with the family of our late Chief Magistrate, in the loss of the husband and father, endeared to them by his many sterling qualities of mind and heart; therefore be it

Resolved, That we deplore the sad event which has in a moment removed from us as a nation our head, beloved as he was by all for his sterling honesty and uprightness of character, and exhibiting as he did in his own person the true genius of American institutions, that no place is too high for the poorest of our people, if they are but true to themselves, and nurture and cultivate the generous impulses of heart and mind given by the Great Father of us all.

Resolved, That we extend our sympathy to the family of our deceased President, with the heartfelt prayer that He who tempers the wind to the shorn lamb may so temper this painful dispensation to

them, as "to work out for them a far more and exceeding weight of glory," and that our God will be "husband to the widow, and a father to the fatherless."

Resolved, That while we submit to this dispensation, we appeal to Him "who doeth all things well," that He would inspire the hearts of those who are in authority with that wisdom and grace that shall enable them to fulfil the duties that rest upon them in such a manner as will redound to the interest of our people, and assist in the work of establishing righteousness in the earth.

Resolved, That the regalia and emblems of the Lodge be clothed in the habiliments of mourning for the space of six months.

Resolved, That this preamble and resolutions be published in the Public Ledger.

Resolved, That a copy of the above preamble and resolutions be furnished the Philosophical Society of Philadelphia, signed by the proper officers of the Lodge, and attested with its seal.

(Signed)

WILLIAM IRVIN, N. G.

JOHN T. BROWN, Secretary.

Letters of envoi were received from the Austrian Academy, February 1, the Prussian Academy, February 28, and the Society of Physics at Geneva, February 1, 1865.

A letter requesting information serviceable in cataloguing the Mercantile Library of New York City, was received, dated June 13, 1865, and the Librarian instructed to furnish the same.

Photographs of Dr. C. M. Wetherill, and Dr. Alexander Wilcocks, were presented for the Album.

Donations for the Library were received from the Academies at Berlin, Vienna, Dijon, Lille, and Boston; the Natural History Societies at Batavia, Geneva, Lausanne, and Boston; the German Geological Society, the London Astronomical Society, the Bureau des Mines, Franklin Institute, and Friends' Freedmen Association; MM. Elia Lombardini, A. Gaudin, and E. Durand, Dr. James Y. Simpson, Dr. Ed. Jarvis, Gen. H. L. Abbott, Rev. Albert Barnes, and Blanchard & Lea, of Philadelphia.

Dr. Geo. B. Wood read the following Obituary Notice of Dr. Franklin Bache.

When appointed by the American Philosophical Society to prepare a biographical memoir of its former President, Dr. Franklin Bache, I had already accepted a similar appointment from the College of Physicians of Philadelphia, of which he was Vice-President at the time of his decease. Believing the latter engagement to have the first claim upon me, I have already written and presented to the College a somewhat elaborate account of the life and character of our departed friend; and feel myself at a loss how best to prepare another, which shall have the merit at the same time of interest and of novelty. Indeed, I am not quite confident that I did right, when invited by the Society to undertake the duty, in not allowing it to pass into other and better hands; but I was influenced, in accepting the charge, by a well-founded conviction that Dr. Bache himself would have preferred that it should devolve upon me; and, moreover, by the consideration that, as there were two phases in his life, the scientific, namely, and the professional, so was there offered to his biographer the opportunity of presenting him to the future in two different aspects, one as he might be regarded from the standpoint of his connection with this Society, the other from that of his fellowship in the College of Physicians. It is in this spirit that the memoir referred to as having been already prepared was written; giving a general account of his life, but dwelling at greatest extent and with most emphasis on those incidents which were connected with his profession, and might be supposed to have a peculiar interest for the persons to whom it was addressed. On the present occasion, my wish is, in like manner, while giving a brief narrative of the events of his life, to dwell more particularly on such as have sprung from his connection with this Society, and will be likely more especially to interest its members.

The members of the American Philosophical Society need not to be informed that Dr. Bache was the great-grandson of its founder and first President, Dr. Benjamin Franklin. Sarah, Dr. Franklin's only daughter, was married to Richard Bache, an English gentleman, who emigrated, when a young man, to this country, from near Preston, in Lancashire, and became a citizen of Pennsylvania. The eldest child of this marriage, Benjamin Franklin Bache, was the father of our deceased fellow-member, who was born in Philadelphia

on the 25th of October, 1792, and, in consequence of the early death of his father, was, with several younger brothers, left to the care of their mother, aided, for a considerable portion of their minority, by her second husband, William Duane.

The early education of Dr. Bache was similar to that of most other youths destined for a liberal profession. He graduated in the department of arts of the University of Pennsylvania in 1810, and entering immediately on the study of medicine, went through a regular course of instruction, and received the degree of doctor of medicine in the medical department of the same school in 1814. In the preceding year, he had been appointed surgeon's mate in the army, and in the course of service, after his graduation, became surgeon; a position which he continued to hold until the then existing war with Great Britain closed, and for a short time subsequently. In 1816, however, he resigned, in order to engage in the practice of his profession in Philadelphia.

Dr. Bache exhibited a very early predilection for chemistry. Soon after commencing his medical studies, in the year 1811, he published, in the *Aurora* newspaper, an essay on the probable composition of muriatic acid, a question which long agitated the scientific world, and which, even after the discovery of chlorine, remained for many years unsettled. Dr. Bache seems to have been an early convert from the old hypothesis, which regarded chlorine as a compound of muriatic acid and oxygen, and the acid as yet undecomposed, to the new doctrine of Sir Humphry Davy, which taught that chlorine was simple, and muriatic acid a compound of it and hydrogen. Until the discovery of iodine and bromine, the close analogy of which with chlorine rendered infinitely probable a similar analogy in their relations with other bodies, no experimentum crucis had been made sufficient to satisfy all minds of the truth of the elementary doctrine; and it is a singular fact, that, in the almost countless ramifications into which the inquiry was pushed, explanation was in every instance possible as well upon the one as upon the other of these so different and even contradictory hypotheses. There are very few coincidences so remarkable in the whole history of the science.

In 1813, before his graduation in medicine, Dr. Bache published three chemical papers in the "*Memoirs of the Columbian Chemical Society*;" but of their special subjects I can say nothing, as I owe my knowledge of the fact solely to the private memoranda left behind by him, having never seen the book referred to. He appears to have

suspended his chemical studies upon entering the army, and not to have resumed them until after his return to Philadelphia, in 1816. But he must then have recommenced them with great ardor; for near the close of 1819, appeared his "System of Chemistry for the Use of Students of Medicine," an elementary treatise in one octavo volume of somewhat more than six hundred pages. This work was based upon Dr. Thompson's treatise, but contains much material industriously gathered from other sources, and, in its arrangement and execution, evinces so many of the characteristic traits of the author as fully to justify its claims to originality. Method, precision, accuracy, and simplicity, are its prominent features; and though, with the very great modification and vast expansion which chemistry has undergone since it made its appearance, the book, without very material changes, would not meet the present wants of the student, it was, nevertheless, when published, a good epitome of the science; and had it been favored by the influence of a great name, or high official position, might have been extensively used, and run through numerous editions. As it was, the sale of the book was not such as to make a reprint expedient; and at a later period of life, when the reputation won by Dr. Bache would have insured success, he could never be induced to put forth either a new work on chemistry, or the old one in a modified form.

His pen, however, was not idle. In 1821, in conjunction with Dr. Hare, he edited the first American edition of Ure's Dictionary of Chemistry; in 1823, prepared a supplementary volume to Henry's Chemistry, republished by Robert Desilver; in 1825, edited anonymously "A System of Pyrotechny," written by Dr. James Cutbush, of the United States Army, who died just as he had completed the manuscript; and in 1830, contributed to the "Philadelphia Journal of Health" an article on purifying and disinfecting agents, and edited the third edition of Turner's Chemistry. The last-mentioned work was an excellent elementary treatise, and exceedingly popular in the United States as long as the author lived. Dr. Bache edited four successive American editions; and there can be no doubt that he contributed much to its general acceptance in this country, by his most careful and conscientious revisions. It is not improbable that his esteem for Dr. Turner's work united with the repressive influence upon American authorship of the want of an international copyright law, to deter him from a renewed attempt to supply the public wants with a text-book of his own.

In consequence of the existing relations in reference to copyright between the United States and Great Britain, by which the English author is deprived of all protection here, and the American in England, great injustice is done to the writers of both countries. An English work is reprinted with us at the discretion of the American publisher, without payment to the author; and the cost is thus so much lessened, that the native author can compete with the foreign only by foregoing all compensation for his labor, or by producing a book much more acceptable to the public. The fault of this condition of things is exclusively our own; as the English government has shown itself not only willing but desirous of establishing the due relations by means of an equable international copyright law. But hitherto the supposed interests of the publishers, who can print without recompense to the author, and of the public, who are thus supplied with cheaper books, have outweighed with our legislators the claims of justice; and the consequence has been, as in the end it always will be, that the wrong has produced its legitimate fruit of evil; on the one hand overwhelming us with a cheap and pernicious literature, which is sapping the morals and vitiating the taste of the young, and on the other discountenancing domestic productions of a higher moral tone, and better adapted to our wants. Strange that the legislators, who can see clearly the propriety of protection to the manufacture of cloth, iron, and paper, are blind to the at least equal propriety of protecting against foreign interference the most important of all manufactures, that of sustenance and ornament for the mind!

From chemical authorship the attention of Dr. Bache was naturally turned to chemical teaching, and he began to lecture on the subject so early as 1821. Probably, in order to test his capacity before entering on a larger field, he made his first attempt in the presence of a class consisting exclusively of his brothers, sisters, and other near relatives; but soon afterwards he lectured to the private medical students of his friend, Dr. Thomas T. Hewson, and still later to a much larger class, composed of the joint pupils of two private summer medical schools, at that time established in Philadelphia. While thus teaching medical classes in the summer, he delivered, also, courses in the winter, first to the pupils of the Franklin Institute, in which he became Professor of Chemistry in 1826, and afterwards to classes of pharmaceutical students in the Philadelphia College of Pharmacy, by which he was appointed to the same professorship in the year 1831.

While thus engaged in teaching chemistry, both as a writer and lecturer, he did not neglect his professional business. To his private practice, which came very slowly, and never in a degree equivalent to his merits, were added, for several years, the official duties of inspecting recruits for the United States army, and of attending military officers who might happen to require medical aid when stationed in Philadelphia. He was, moreover, for a considerable time, physician both to the old Walnut Street Prison and to the new Penitentiary at Cherry Hill, to the former of which he was appointed in 1824, and to the latter in 1829.

Besides these avocations, which yielded him more or less income, he was for a period of six years, from 1826 to 1832, engaged, with several others, in gratuitously conducting the *North American Medical and Surgical Journal*, one of the best medical periodicals then existing, which occupied much of his time and thoughts; and in the year 1829, he entered upon another course of unpaid labor, on the part of the College of Physicians of this city, in revising the *United States Pharmacopœia*, which was repeated every ten years as long as he lived.

Nor did he confine himself, at this period of his history, exclusively to chemical and professional labors. His situation, already referred to, of physician to the two State Prisons, the Walnut Street Prison, conducted on the old collective principle, and that at Cherry Hill, on the new Pennsylvania system of solitary confinement, not only suggested inquiry into the general subject of penitentiary discipline, but gave him excellent opportunities of comparing the two systems, and of determining their relative value. With one of his thoughtful turn of mind, such inquiries almost necessarily matured into decided opinions, which deserve great weight, in consequence not only of his opportunities, but also of his excellent judgment. His views on the subject were given in two letters to Roberts Vaux, well known as a zealous advocate of the modern plan, which were published in the third and sixth volumes of *Hazard's Register*, and also separately in a pamphlet form.

Of these two letters, the first presented the evils of the collective or gregarious system, as he had observed it in operation in the old prison, and those of the solitary system, as alleged by its opponents, with comments of his own, which lead necessarily to the conclusion that the latter is far preferable to the former in most points, and scarcely inferior in a single one. The second letter gives the results

of one year's personal observation of the working of the new plan in the Cherry Hill Penitentiary, which abundantly confirmed the previous conclusions of his judgment. It must be understood, however, that he distinguishes very decidedly between the plan of entire seclusion, without occupation for mind or body, and that in operation at the new prison, which, while most carefully debarring the convicts from all intercourse among one another, whether by night or day, permits a cautiously regulated intercourse with others, and gives every facility for needful exercise, useful labor, and profitable reading. It is the latter system only that he commends, abandoning the former, apparently without reserve, to the very serious charges, made by the enemies of solitary confinement, of inflicting tortures of mind conducive to insanity, and most deleteriously influencing the physical health, by the deprivation of fresh air and exercise, and all mental recreation.

In the year 1818, soon after having established himself as a practitioner of medicine in Philadelphia, Dr. Bache married Aglae, the daughter of Jean Dabadie, a French gentleman then resident in this city. Perhaps by the merely worldly-wise this may have been regarded as an imprudent step, as their united incomes were insufficient for the support of a family; and for many years, with all that he could add to that income by his best exertions, the young couple labored under many difficulties from deficient means, which were, of course, aggravated by the constantly increasing family that was growing up around them. Nevertheless, I have no doubt that he acted most wisely; for the match was one of affection; the lady was intelligent, amiable, and in every way worthy of him; and it is impossible to overvalue the influence of mutual love in estimating the sources of happiness in this world. What, if borne singly, might be regarded as trouble or misfortune, when shared with an affectionate partner often scarcely deserves the name, and sometimes may be even looked on as a blessing, as it calls qualities into exercise which might otherwise have remained dormant, and which, when developed, are alike a cause of happiness to their possessors and their objects, and an honor to our nature. Unhappily, Mrs. Bache, after bearing with her husband the difficulties of his earlier career, was called away from him just as his pecuniary affairs were beginning to be no longer a source of anxiety. She died of consumption in May, 1835, leaving him, as her best legacy, a young family of sons and daughters to give exercise to his affections, and comfort to his declining years.

The period in Dr. Bache's history which we have now reached, may be considered as a resting-point, from which he may have looked back with a feeling of satisfaction for time well spent and work well done, but as yet with little consciousness of having filled a large space in the public eye, or having done much that was obvious for the general good. Hitherto he had been serving an apprenticeship to the great business of life, and preparing himself for the works which were to entitle him to rank among public benefactors, and to earn for him a lasting name. The most important of these labors were mainly professional, and have been fully considered in the memoir to which I have already once or oftener alluded. I shall speak of them here, as a general rule, only so far as may be necessary to keep the thread of the narrative unbroken; dilating, however, upon those points which especially connect him with this Society. I do not mean to intimate that there was any sharp or precise line between his earlier and later career; so far from this, I am even unable to fix upon the year when the one may be said to have ended and the other begun. But we may date the commencement of the second era from the time when he had fully engaged in the work of revising the United States Pharmacopœia, had been made Professor of Chemistry in the Philadelphia College of Pharmacy, and was about to begin the work of preparing the United States Dispensatory; between the close of the year 1829 and the beginning of 1832, when he was approaching his fortieth year, and had fairly entered into middle life.

I shall treat first of his relations with this Society, with which he was so long and so intimately associated. He was elected a member on the 1st of April, 1822. For several years there is little evidence, in the minutes of the Society, that he participated actively in its proceedings otherwise than by attendance at its meetings; the only office filled by him previously to the year 1825 being that of judge of the annual election in January, 1822. He was too modest to draw attention to himself by any premature display; so that, in looking over the records, I have noticed only a single instance, during the first five years of his membership, in which he appears to have departed from his rule of silence; and, in this instance, it was nothing of his own that he offered, but a paper by Mr. Henry Seibert, containing the results of an analysis of a specimen of fluosilicate of magnesia from New Jersey. In the regularity of his attendance he was very remarkable, from the date of his election to that of his decease; and certainly, during this long period, there was no other member of the Society who was present at nearly so many meetings

as he. A record of attendance has been kept by the Treasurer since the beginning of 1850; and from that year, inclusive, to 1864, which was the last of Dr. Bache's life, his average yearly attendance, notwithstanding an absence from the country on one occasion of five or six months, was fifteen meetings, the whole annual number being twenty. The only other member who, during this period, exhibited so fair a record, or even an approach to it, was our worthy Treasurer himself, whose favorable line of marks for most of the time was almost without a flaw.

In January, 1825, Dr. Bache was elected one of the Secretaries, and he continued to serve the Society faithfully in this capacity until January, 1843, having been the senior Secretary for eleven years. For a considerable portion of the same time he was one of the Standing Committee of Publication, having been appointed a member of the Committee in 1826, and its chairman in 1829; and he continued to act in the latter capacity until January, 1835, when he declined a reappointment. They who knew Dr. Bache do not require to be informed how sedulously he fulfilled the duties of this laborious Committee, not only taking care that everything should be done in its proper time and place, but also that it should be correctly done; and I do not venture much in saying that, through the long series of our Transactions, none will be found more free from errors of the press, or any other errors which fall within the scope of the Committee's oversight, than the volumes published under his superintendence.

At the election of January, 1843, he was chosen one of the Vice-Presidents of the Society, and, being re-elected annually, became senior Vice-President in 1849. This relative position he continued to hold until January, 1853, when, Dr. R. M. Patterson having on account of his failing health declined a re-election, he was chosen President; thus having risen regularly through the successive grades of office to the highest, as if the Society, in its relations with him, had participated in that spirit of order by which he was himself so strongly characterized. During the first year of his presidency, he paid, with myself, a visit of five or six months to Europe. On this occasion the Society furnished him with a circular to its correspondents abroad, which facilitated his intercourse with scientific men, and would have been still more useful, had not the necessary rapidity of our movements very much curtailed his opportunities for such intercourse. But throughout the journey he kept the good of the Society in view, searching for information about its foreign members, endeavoring to awaken an in-

terest in its affairs among those he was happy enough to meet, and seeking to extend its relations, both with individuals and associations, whenever apparently desirable. After his return, he gave, December 16th, 1853, an address to the Society in relation to its affairs, an abstract of which is contained in the published Proceedings of that year. In consequence of a by-law then existing, "that no person should be eligible as President at more than two out of three successive elections," he ceased to hold the office after January, 1855. Believing that this rule did not work beneficially for the Society, he introduced a resolution, November 5th, 1858, after the decease of the late President, Judge Kane, for the repeal of the by-law, which at the subsequent meeting was carried by a majority of 23 to 2. Before initiating this measure, he had firmly resolved not again to accept the responsibilities of the position; and, though the general feeling of the members was, I believe, in favor of his re-election, and he was strongly urged to permit himself to be considered as a candidate at the approaching election in January, 1859, he adhered to his resolution, and continued a private member during the residue of his life. His interest, however, in the Society, in no degree abated; and he continued to be as assiduous as ever in his attendance at the meetings, and as actively participant in the proceedings. How much the Society was present in his thoughts, may be inferred from the fact, that, on his death-bed, just before his intellect was swallowed up in stupor, he spoke to me of a measure then under the consideration of the Society, which he feared, if adopted, might prove injurious to its interests; and these were among the last intelligent words that he uttered.

In the course of his membership, Dr. Bache rendered several important services to the Society, which are worthy of being recalled. The first that I shall notice concerned the catalogue of members. Soon after he was first chosen one of the Secretaries, it was resolved, at his suggestion, that such a catalogue should be prepared by these officers; and ever afterwards he appeared to take it under his special guardianship, being always solicitous that it should be at once complete and correct, with every name properly entered, and every date, whether of the election, resignation, or decease of a member, accurately stated. On the last point he often took great pains in making inquiries, especially as to the foreign members; and in regard to the subject generally, there was no one, I presume, who nearly equalled him in a careful watchfulness over the necrology of the Society, the

whole number of deaths, reported by him as they became known, scarcely falling short of one hundred.

Another service had reference to the proceedings of the Society. Except as regarded the papers published in the Transactions, these proceedings were formerly almost barren of useful results outside of the comparatively small number of attending members who participated in them. At the meeting of May 18th, 1838, a committee was appointed upon the motion of Dr. Bache, of which he was chairman, to consider the propriety of publishing an abstract of the proceedings; and at the next meeting, upon the favorable report of the committee, the proposed measure was adopted, and the Secretaries were instructed to appoint one of their number as Reporter. Dr. Bache was accordingly appointed to this office, and at the meeting in August following, the first two numbers of the printed Proceedings were laid on the table. Having completed the Report for the year 1838, he resigned the post in favor of one of the other Secretaries, but in 1842 was again appointed, and served for another year.

The arrangement of the Franklin papers is another result which may be fairly ascribed to him. As they came into the possession of the Society, these papers were in a chaotic state, which rendered them almost useless for reference. In November, 1849, Dr. Bache introduced the subject to the notice of the Society; and at the following meeting in December, was made chairman of a committee, with instructions to have the papers arranged in chronological order, and divided into volumes of a convenient size for binding. A little examination sufficed to convince the committee of the almost Herculean character of the task confided to them; and, on their recommendation, it was determined that the labor should be intrusted to some competent person, to be duly compensated. It was estimated that the papers would form at least sixty respectable folio volumes; and as ten dollars per volume was deemed but a moderate recompense for the requisite labor, the sum of six hundred dollars was appropriated to defray the cost. The task was undertaken by our Treasurer, Mr. Trego; but so complicated and tedious did it prove, that, though he devoted to it most of the time he could spare from other avocations, it was completed only a short time before the decease of Dr. Bache. I have been told that one of the last acts of our departed friend was to appoint a meeting, with a qualified person, in order to make arrangements for the binding of these volumes; but he was prevented by his illness from fulfilling the appointment, and the work still remains to be done.

Yet another service meriting special notice was his participation in the business of newly arranging the library of the Society, and preparing a catalogue; a duty which fell to the lot of our present Librarian, and has been so well performed by him. Towards these purposes, Dr. Bache made the liberal contribution of five hundred dollars on two successive occasions, in the years 1853 and 1854, which is to be valued the more, as it proceeded not from superfluity of means, but from an income which, though considerable at the time, was all needed, in order to make prudent provision for the future of his family.

I might extend these remarks concerning the relations of Dr. Bache with this Society much further, but all the more prominent facts, so far as they have come to my knowledge, have been detailed; and I am warned by the time already consumed that I must hasten on, if this address is to be completed within the customary limits.

It has been already stated that, in the year 1829, Dr. Bache became engaged, with others, in the laborious duty of revising the Pharmacopœia of the United States. He entered upon that duty as one of a committee of the College of Physicians of Philadelphia; and afterwards served on another committee appointed by the Medical Convention which met at Washington in 1830, whose duty it was to further revise and ultimately publish that important work. At three decennial periods subsequently, 1840, 1850, and 1860, he was engaged in the same manner, in the same work, and on the last of these occasions, acted as chairman of the Committee of Revision and Publication, and consequently had the chief laboring oar. Except by the medical gentlemen present, the work here referred to can scarcely be appreciated in regard either to its importance, or the amount of labor involved; but some idea may be formed on both these points, when it is understood that the Pharmacopœia is a national code, essential to the maintenance throughout the country of a certain uniformity in the nomenclature and preparation of medicines, without which every member of the community would be liable to serious accidents to his health and life; and that in each revision of it, many months, and sometimes even years, are occupied with more or less work every day, to fit it for the purposes it has to fulfil. In Europe this duty is generally performed under legal sanction, and by compensated labor. With us the Pharmacopœia rests entirely upon opinion, and all the labor bestowed and time consumed are wholly gratuitous.

Immediately after the publication of the first revised edition of the

Pharmacopœia, in 1831, Dr. Bache, jointly with myself, undertook the preparation of the Dispensatory of the United States, which was completed and published in 1833. I am precluded, by my share in the authorship of that work, from treating either of its merits or demerits. This much, however, I may be permitted to say, that it purports to represent the existing state of *Materia Medica* and Pharmacy, has been accepted in this capacity to a great extent throughout the United States, and has been used as a guide in relation to these branches of medicine by a large proportion of the physicians and apothecaries of our country. The extensive use of the book rendered frequent editions necessary, and thus gave opportunity for revisions at short intervals, by which its character as a representative of the knowledge of the times has been maintained. Indeed, before the decease of Dr. Bache, so many changes had been made, and so much novel matter introduced, that it had become almost a new work, possessing little more than the general features of the original. Between the years 1833, when it was first published, and 1864, when Dr. Bache died, it went through eleven editions, at average intervals of three years; having, during this time, swollen from somewhat more than a thousand to nearly sixteen hundred pages, and containing, from its greater compactness, almost twice as much matter as in the beginning. From this statement it will be understood how great an amount of labor must have been bestowed on it from first to last by Dr. Bache, and how constant a source of occupation it must have been to him during this long period of more than thirty years. Happily the pecuniary results were such as to make his income, much restricted anteriorly to its publication, comparatively easy from that time onward, and quite adequate to his wants. The work was, moreover, a stepping-stone to his appointment to the chemical professorship in the Jefferson Medical College, which he received in 1841, and continued to hold as long as he lived.

The vicissitudes of his life seem to have ceased with this appointment. Made by it not only comfortable but even affluent in his circumstances, he was no longer compelled to search for new and better position; and as his time and powers were sufficiently occupied in the performance of his regular duties,—the care, namely, of his practice, the fulfilment of his professorial functions, and the constantly recurring labor of revising either the *Pharmacopœia* or the *Dispensatory*,—he had no inducement to new attempts at authorship, or in any other direction to seek for new fields of industry. As a member of the Wistar Party, and the Senior Medical Club, he performed

duly his function whether of host or of guest; participated in our anniversary Philosophical Dinners, then more fashionable than now; in all respects acted duly the part becoming his social position; and gave to the various associations and institutions, benevolent, scientific, or professional, with which he was connected, the proper share of time and attention. Thus fully occupied, without being overworked, with no serious drawback to his comfort, he was, perhaps, as happy as is consistent with this uncertain state; and the current of his life, though somewhat agitated in its earlier course, now flowed onward copiously, richly, and smoothly to its end.

Having sufficiently detailed the incidents of his career, it only remains that I should endeavor to portray his qualities as a man. Of his personal appearance nothing need be said, as there is no one here, I presume, not perfectly familiar with it. His mental qualities, though not peculiar in their nature, were in some respects strikingly so in degree, so as on the whole to constitute an extraordinary character. With little of the imaginative or inventive faculty, he had an excellent reason and judgment, and at least an average power of observation. He therefore seldom sought or made discoveries, never formed theories, except as convenient categories for facts, and generally eschewed figures of speech and flights of fancy, whether in speaking or writing; but he was almost always clear in thought and correct in conclusion, remarkably sound in his opinions, and seldom wrong in his judgments either as to the character and probable actions of men, or as to what was expedient under any given circumstances. In mental action, as in his bodily movements, he was remarkably slow and deliberate, but was, therefore, all the less liable to error; and when his conclusions were once attained, he was even more slow to change than he had been to form them.

Though generally serious in thought and manner, he was possessed, in no slight degree, both of the sense and faculty of humor, which often rendered him a delightful companion; but his pleasantries partook of the quietness of his general deportment, were never boisterous or offensive, and rarely, if ever, out of place. There was a singularly marked line of division between his serious and lighter veins; and, unlike many wits who never hold back a ludicrous thought, however grave the occasion, he almost never mixed the two together. I have not known an individual who better illustrated the adage, *sapientis est desipere in loco*; who better knew, or, perhaps, I should rather say, more accurately felt when it was proper to be sober, and when to be gay and playful.

But it was more in his moral than in his intellectual character that his peculiarities lay. Dr. Bache was apparently, rather by nature than by education, eminently conscientious. To believe that anything was right was, with him, as a matter of course, to act accordingly. The idea of doing what he believed to be wrong would seem not to have occurred to him; and the attractive appeared to lose its character when dissociated from the right, and to be no longer even tempting.

He had, moreover, a natural love of truth, justice, and method, perhaps essentially the same mental quality, differing only in application, as all are resolvable into the simple love of order; truth being the due relation of things in regard to fact, justice in regard to compensation or reward, and method in regard to position; so that one who by nature is very fond of order, will be apt to be true and just as well as methodical, unless perverted by accidental counter-influence. At all events, our deceased friend had all these qualities in an eminent degree. I never knew him to tell or even hint an untruth, to do an unjust act, or knowingly cherish an unjust thought; and every one acquainted with him, ever so slightly, must have been struck with the remarkable method and precision which pervaded all that he said or did.

A natural consequence of his truthfulness was a remarkable degree of candor, which, though perhaps not obvious to strangers, because both his good sense and a becoming modesty withheld him from intruding his personal concerns upon those of whose interest in himself he was not confident, and with whom, therefore, he may have sometimes had the reputation of reserve, yet to his friends was well known, and was among the most attaching features of his character. In relation, however, to the concerns of others, he was as reticent as he was open in reference to his own; and I do not believe that he ever violated, even accidentally or carelessly, any confidence reposed in him.

Another conspicuous moral trait was a placidity of temper that was proof against almost any provocation; not that he did not feel an injury or injustice done, whether to himself or others, and express himself accordingly; but the feeling provoked was rather that of regret than of anger, and the offence was readily forgiven when not attended with some moral obliquity.

Taking him altogether, I never knew a man with a better balanced mind, or one who more nearly approached to my notions of perfection in all that concerns the moral character. As a consequence of

his various excellences, and certainly without any purposed action of his own, for with all his amiable qualities he was remarkably independent, he conciliated almost universal good-will; and few men have been more generally esteemed, and, where well known, better beloved than he.

Dr. Bache's writings and public teaching were marked by his characteristic intellectual traits. Simplicity, clearness, truthfulness, accuracy and method were their chief qualities, in regard both to material and arrangement. Correct reasoning and sound judgment were also evinced whenever there was occasion for their exercise. His style was easy and remarkably correct, even to the punctuation, and his language pure, idiomatic English. His published writings are entirely exempt from any appearance of effort or attempt at display. The purely ornamental is eschewed entirely. Figures of speech, flights of fancy, and flowers of rhetoric, are unknown to them.

It may seem strange that one so addicted to science, and especially to chemistry, as he, should not only not have made any remarkable discovery, but should not even have exerted himself in the line of experimental research; but to the discoverer, except in the fields of pure natural history, where observation is the great requisite, a certain amount of the imaginative faculty, and of the disposition to its exercise, which is apt to attend its possession, is, I believe, an essential requisite; and of this, as before mentioned, Dr. Bache had very little. To find out the new, one must be able to penetrate somewhat into the unknown. The discoverer must have an imagination that shall carry him beyond the present, and suggest new ideas and new trains of thought; and, though these are not discoveries, yet they become so when, having been submitted to the test of experiment under the guidance of reason and judgment, they may either be found to be themselves truths, or paths which lead to truth. A combination of these powers, the imagination, reason, and judgment, is essential to make a great discoverer or inventor; and of the three, a certain degree of the first is indispensable, outside of the field of pure observation, unless as the result of mere blind accident.

From 1841 to the time of his decease, Dr. Bache's course of life was, so far as I know, distinguished by no prominent incident beyond those connected with his regular engagements, except a journey in Europe, made with myself in the spring and summer of 1853. It was my original intention, in preparing this memoir, to incorporate with it a brief abstract of that journey, which was certainly con-

sidered by Dr. Bache as representing one of the most interesting eras of his life; but the length to which this address has been already protracted, and a glance at my notes of the journey showing me that it would be impossible to compress what I should have to say within very narrow limits, have warned me that I must forego the execution of this intention.

In the spring of 1864, just as he was about to enter upon the task of preparing a new edition of the United States Dispensatory, which he expected to be peculiarly laborious, he was seized with an illness that proved to be his last. After considerable suffering for two or three days, his pains left him almost entirely, and in a few days more he sank into a state of prostration and stupor, which terminated in a perfectly easy death, on the 19th of March, somewhat more than a week from the commencement of the disease. He was in his seventy-second year when he died.

A memoir was presented for publication in the Transactions, by the Secretary, from Dr. Leidy, entitled "The Myriapoda of the United States, by Dr. H. C. Wood, Jr." The Secretary stated that the original MS. had been burnt in the late conflagration of the Smithsonian Buildings, at Washington, and that the present had been newly prepared from his original notes by the author, and was now offered, with the consent of the Secretary of the Smithsonian Institution, for publication by this Society, with the use of a number of wood-cuts already executed, and others drawn but not ready for use. On motion, the paper was referred to Dr. Leidy, Dr. Le Conte, and Dr. Bridges.

A memoir was presented for publication in the Transactions, by the Secretary, entitled "On the Formation of the Island of Sombrero, by Alexis A. Julien," and referred to a committee, consisting of Dr. Genth, Prof. Booth, and Mr. Lesley.

Mr. Briggs made a verbal communication of his views respecting the nature of the force by which petroleum is brought to the surface, regarding it as an intimate mechanical mixture of the gases, into which the petroleum spontaneously decomposes, with the petroleum fluid, like that which exists between the carbonic acid and the water in a soda fountain.

Mr. Lesley read a communication "On the Mythical Compounds of BAR," stating in substance the conclusions to which a study of the subject for nearly twenty years had led him, in the form of theses, which he did not purpose now to discuss at any length.

1. That the word BAR (with its isomorph BAL), and its mythical simple compounds B-BAR, T-BAR, K-BAR (with their isomorphs), and BAR-B, BAR-T, BAR-K (with their isomorphs), and other more complex compounds, partly mythical and partly vulgar, constitute the staple of that part of all language which was produced by and devoted to the use of the primæval (and mediæval) religionism of the human race.

2. That the word BAR was constructed and used to signify the trinity; not the personal triune deity of Athanasian Christianity, but the aboriginal and universal, druidic or arkite trinity, composed of three material objects, the *ship*, the *mountain*, and the *water*.

3. That the analogies which are observed by comparative philologists to exist between different languages, so far as concerns their vocabularies—analogies, considered by one class as organic, and, therefore, not necessarily congeneric, by a second class as accidental, and by a third class as proofs positive of a common origin—are in fact, and in the main, *ecclesiastical*; and constitute a distinct department of comparative philology, viz., the mythical, initiative, mystic, druidic, or arkite; purely invented, and propagated by a priestcraft, which penetrated, in course of ages, all nations.

4. That the organico-onomatopœic portion of language is susceptible of analysis and explanation on a few simple principles, involving, however, a reference to mysterious instincts. While the grammatico-organic portion is much more obscure as to its origin, although also subject to scientific classification.

5. That both the arkite or cabalistic portion of language, and the organic or spontaneous portion, are to be kept carefully separated, in comparative philology, from a third portion and the largest of all, consisting of the debris of the other two; being at once sedimentary, metamorphic, and pseudomorphic.

6. That it is by no means certain that the so-called monosyllabic languages have not reached that condition by a process of contraction, obviously going on in languages now spoken, like the French.

7. That a comparison of the most widely variant types of lan-

guages, e. x. the Chinese and the Latin, if made not directly, but by the intermediation of languages charged with the arkite or ecclesiastical element, e. x. the Australo-Polynesian group, will result in establishing a genuine and close alliance, the recognition of which has become a *sine quâ non* to the further progress of Comparative Philology.

8. That the explanation of the Alphabet will turn out to be not purely organic, nor merely hieroglyphic, but in part both; and under the domination, not of an unshackled, uninstructed, and irrepressible imagination, as most of the alphabet theories seem to postulate, but of an imagination highly cultivated, well-regulated, and subjected to a fixed mytho-philosophy, taught by initiation, and developed under cover of religious mystery.

9. That when the true alphabetic key is found, it can be applied to the discovery of the meaning of the whole architectural, geographical, zoological, botano-medical, heraldic, and genealogical nomenclatures; of all those portions of the languages of the mechanic arts, and marine life, which do not date lower than the sixteenth or seventeenth centuries; of the essentially formal terms used by the legal profession, and of the whole language of saga, folklore, fairy-tale, and nursery-rhyme literature. In a word, this Cabala, first exhibited in the alphabets of antiquity, penetrates all modern languages to such an extent, that the failures of comparative philologists to determine satisfactorily the most difficult questions of the science are due to their ignorance or contempt of it.

10. That a large proportion, if not the most of all diphthongs, are contractions, produced by dropping the middle consonant of a tri-radical dissyllable; such as *caer* from *cabar*, *taur* from *tabor*; and that the medial thus suppressed has been commonly, but not always, a labial.

11. That in perhaps a majority of cases, the long or double voyals η , ω , O, U, are contractions of the same diphthongal nature; while in other cases they represent the suppression of ρ , λ , r, l, final.

12. That the case- and gender-terminations S and M may be explained by the active and passive, or subjective and objective ideas attached to the two forms of the water-symbol. The Hebrew plural termination is explicable in the same way. And, in fact, that a certain portion of the doubtfully explained affixes and suffixes encountered by grammatical investigators are hierophantic or cabalistically alphabetic.

13. That the ship-symbol U, V, with its variants, the mountain-

symbol A, Λ, with its variants, and the water-symbol M, Σ, in its two postures, the horizontal and the vertical, constituted the original nucleus of the alphabet; to which were added subsequently compound symbols, such as X, Y, θ, K, Ω, the intense or explicit water-symbol E, and the organic letters φ, χ, ψ.

14. That the ship- and mountain-symbols were variously modified, and, for a curious but perfectly explainable reason, compounded, interfused, confused, and interchanged; whereas the water-symbol, for an equally plain reason, was kept simple and separate from the other two, and stands out clearly as the key element in all the compound symbols, whether literal or architectural.

15. That the unpronounceable AUM of the Brahmins is the mountain-ship-water symbol, pure and simple.

16. That the ♀ of the Egyptian hieroglyphics, the sign of life, or of divinity, or rather of regeneration to immortality, is the same ship-water-mountain symbol.

17. That the Egyptian box-capital and lotus-leaved-base column, was the architectural analogue of the same symbol; because classical and beautiful in the Taboric, Tauric, or Doric style of Greece; and exists still in the Norman column, with its box-capital surrounded by water-demons, and in all parts and details of the Gothic cathedral building, the whole of which is a nave or ship.

18. That the tonsure of initiation, the papal tiara, the ducal crown, the university cap, and many of the more curious female head-dresses practised by barbarous tribes, represent the same triple symbol.

19. That circumcision is not to be explained except as a practical way of rendering the arkite symbol permanent in that part of the human body adopted as primal by the phallic mythology; which, following arkism, accepted its phraseology, and applied its symbolik to a more philosophical train of ideas suggested by the generative powers of nature and the mysteries of child-birth.

20. That the serpent-worship mythology must be regarded as a one-sided arkism, due to an exaggerated reverence for the water powers, better represented by the serpent than by any other object of living nature. The serpent- and egg-symbol, especially in its form of the serpent, column and egg, or serpent, altar and bread, is perfectly arkite.

21. That the Yezidee, or devil-worship, was but a modification of ophism, and was represented in arkism by the worship of the crocodile, and other amphibious or marine monsters, by the legends of

Tannim, and the Typhon, and by the whole ceremonial of Sivaism, and was perpetuated in the bat-winged devil of Etruria, Japan, and the modern Miltonian orthodoxy. The half philosophical discussion of the evils flesh is heir to has produced Ahrimanism, Manachæism, and Dualism in general, in all ages; but the special symbolik of dæmon-worship or diabolism has, nevertheless, always been essentially and plainly arkite; as may be seen in the tales of the Genii, the Talmud, the Apocalypse of St. John, the formulæ of the necromancers, &c.

22. That many of the names given to the deity, and his attributes, to man and his qualities, to the insignia and the apparatus of church and state, are simple arkisms, and therefore common to many languages and different races of mankind.

23. That the religious controversies which arose with the gradual development of the religious phantasy, resulting in bloody wars and hereditary feuds, produced a confusion between the titles given to God and the devil, and between good and bad qualities, blessing and cursing, &c. So that the name of God for one tribe became that of a demon to another; and the whole sacred phraseology of one age became a senseless, obscene, diabolical jargon to the age which followed it. Yet the essential and original cabalism of the terms used in their double, opposite, or polar meanings, remained the same. The Hebrew בָּרַךְ, for example, stood related to the BAR as closely after it had come to mean "curse," as when it meant "bless." Sacer was as much S-K-BAR in one of its meanings as in the other. The Tabu system of Polynesia is the double result of the same opposite relationships still maintained with the original תָּכַר, from which we get Tub, Dove, David, the sacred Thebes, and a hundred other arkisms in every language of the earth.

24. That there are also certain words in all languages with opposite or polar meanings in a strictly *physical* sense, deducible, however, directly from the arkite symbolism of antiquity, as exhibited to former eyes; such as, in English alone, Barrow and Burrow, Top and Tub, Pile and Pail, Hill and Hole, Cap and Cup; the difference being marked by the artful use of vowels, according to a general law, which some have supposed organic or psychological, but which can be shown to be, in many instances at least, arkite.

25. That the first age of this arkite symbolism must be considered more remote than any history, because it preceded the invention of any kind of alphabet, and because its spirit presided over the erection of its earliest monuments. What was the precise nature of the

cataclysm from the remembrance of which its legendary ideas were fabricated, cannot now be discovered; but the supposition that some actual physical event called forth these ideas seems rendered necessary by what we know of the original rude nature and the unphilosophical mind of the race in its earlier stages of existence. It seems indeed just possible that the whole system took its rise in Egypt, and out of the annual phenomenon of the inundation of the Nile. At all events, this was the grandest natural commemoration of a deluge, and of a regeneration of life and hope for mankind; and here, in Egypt, took place the most complete and imposing development of the arkite symbolism—in the pyramids; in the propylæa with mountain sides, ark-like cornices above, and waving sands around their base; in sphinxes; Osiris-arks; death and resurrection ceremonies; and a thousand characteristic details equally significant.

26. That traces of arkism can be found abundantly throughout Africa, and in so pure a form, as to suggest to the geological antiquary the possible connection of its origin with the emergence of the Sahara.

27. That the bull-sphinxes and other monuments of Mesopotamia, the carpet and ring of the Flying Mithras of Persia, the lions attacking the bull, the arrowhead lying on the altar, &c., show arkism at home in that region of Asia.

28. That it pervaded India is equally evident from the details of the Hindoo mythology; from the Topes (תברה) and Pagodas with their uppermost story bulging into the form of a ship; from the Buddhistic history and the worship of Gaudama's foot; from a thousand local legends; the worship of the humpbacked cow; the Jain rites; ancestral worship and Ganges worship; from the dress and manners of the Rajpoots; the mysteries of Juggernaut; the supposed magical powers of barbers; and the whole life of the pariah races of the Peninsula.

29. That the present home of arkism is Thibet, where the system is in full life, complete in all parts, and developed to its highest pitch; that from this, as a living centre, it has radiated its ceremonial and its traditions to the farthest limits of the East; and that they can be studied in farther India, China, and Japan, Corea and Mongolia, the Polynesian Islands, California, Mexico, and Peru; explaining the Pagoda and its dragon, the Marai and its tabu, the shamanism of the hyperborean races, and the teocalli system of the new world.

30. That the Druidism of Europe is the western representative of

the lamaism of the East, continuing to exist and develop its infinitely prolific germs of variation and transmutation in the Greek and Roman Catholic churches, and in some of their Protestant offshoots. That the communion cup upon the altar, the pallium on the shoulders of the Cardinal, the Elizabethan collar around the neck of the Domprediger at Berne, the baptism of the bell, the swinging of the censer, the name of the pulpit, and its normal box-form, mounted on a pillar and surrounded by quaint sculpture, are but instances of remaining arkism.

31. That the Legends of the Saints are to be rescued from contempt, and explained, only by reference to the spirit of arkism, which has thoroughly and energetically inspired the Church of Christ; inventing perpetually new dresses for the old symbols, and recommending them thereby to new classes of society, or to new sections of the heathen world. A perfect harmony can thus be established between the stories of the cloister and the sagas and folklore of the hearth; between the mythical St. Christopher and the equally mythical William Tell.

32. That Free-Masonry probably offers to its initiated another field for investigating living arkism. Its gavel and trowel are sacred symbols of the mountain; and its other insignia, the square and the compasses, are equally easy to read in the light of architectural mysticism. Its primæval grand-master, Solomon, the Man of the Cell, called himself the QELT (קֶהֱלֵת) or Cabalist.* Many branches of Free-Masonry have been produced in the course of ages, known by different names, and various in spirit, language, and rites, according to the temper of the times, the blood of the members, and the progress of ideas. But so far as their interior history has ever been revealed, the revelation has exposed the elements of arkism as the stuff of which originally their essence was composed. No phenomenon connected with the existence of man has excited more curiosity and speculation than the universal spread of not only the spirit, but the language of Free-Masonry around the world. It can only be explained by reference to the simplicity of its formularies, and their preservation from the remotest antiquity, as modern representatives of primæval arkism.

* QEL, קֶהֱלֵת, εκκλησια, kirk, church, as well as the verbs which correspond to them and from which they are commonly supposed to be derived, viz., קָהַל, κολου, select, collect, &c., find their explanation in the Arkite Cabala.

33. So wide a generalization of facts from all departments of history in the past, and human life in the present, centred at so small a group as that which has been described above, under the name of the arkite symbol of the mountain, ship, and water, will necessarily incur the charge of one-sidedness. The theory will be said to attempt too much, to run itself into the ground, to break down with its own weight. It will find arrayed against itself other theories of primæval history, laboriously invented by the best thinkers of the last hundred years, each claiming to explain the rise and development of human thought and culture, as well as most of the anomalous and eccentric, fantastic and absurd, misapplications of men's views of the supernatural, and of nature. Of no part of science is it a truer saying than of this, that no theory can be true that does not accept, ally, and illustrate, all that is true in all other theories; embodying their generalizations within its own, and differing from them only in the superior expansiveness of its field of vision. Modern geology is neither Huttonism nor Wernerism, but an eclectic combination of both. Sociology, as now best taught, recognizes the justness of every form of government in its natural place. The science of physics is a compound precipitate from the relation of the most prosy parts of materialistic natural-history, and the finest transcendental or metaphysical notions respecting essence, and the mysterious forces of the entire universe. Even theology is being stimulated from its sleep of ages by stimulants administered by unbelieving savans. Isolation is no longer possible for the investigator; and his theories must be in good society, or be tabooed.

34. Archæology has been based exclusively on Astrology by some of its best writers. Undoubtedly there is a department of astronomical archæology; and the genius and learning displayed in such a master-piece as Dupuis' great work were far from being thrown away. On the contrary, it is as much a cabinet of new-discovered facts and truths, as Boucher des Perthes' Celtic Remains, or Tyndall's Lectures on Heat. But it does not follow from all the wonderful coincidences between mythologies and the phenomena of the sky, that the aboriginal mythology was astronomical. Man's eyes were early dazzled by the light of the sun, and his heart melted by the beauty of the moon; but an earlier worship may have existed for his soul, and centuries of intellectual development may have been needed before the order of the stars could take so strong a hold upon his imagination, as to subjugate his reverence, and systematize his hopes and fears into the Mithraic and Sabæan forms. Some wider synthesis must in-

clude Dupuis'. The very nomenclature of sun- and planet-worship, requires an older worship for its explanation; so does its architecture; so does its symbolism. The ring, the bird's tail, the carpet of Mithras, find no account of themselves in astronomy. Fire-worship was evidently adopted and carried like a child by an older mountain-worship. If the central triliths of Stonehenge have their tops cut down to the plane of the ecliptic, the central sacrificial stone, sloped for the draining off of human blood, is a structure suggestive of quite a different system,—that of the arkite loggan and ambrose stones of the whole druid world. Supposing Turner's views respecting the great pyramid to have been made mathematically certain by the late paper of the Astronomer Royal of Scotland, Turner himself insists that the great pyramid differs from all other pyramids, in Egypt and elsewhere, in this very fact, that it alone is astronomical; the rest must give some other account of themselves. Arkism embraces and explains astronomical archæology, but the latter cannot explain the former.

35. Then there is the Phallic system of Kanne, and all the learned writers of that school. A theory of antiquity not to be despised—a grand summary of indubitable facts—it has a philosophical basis to stand upon. It has immense resources in philology. It is written with the freest and coarsest hand on the monuments of east and west. It explains, and is explained by, the experiences of monastic life. It appeals for justification, in fact, to the strongest of all the energies of nature, both physical and spiritual, when it affirms that the first astonishment man felt was at himself when he began to cohabit with woman; and the second, at the birth of his first child; that thus all worship sprang from love, and all its symbols from the organs of reproduction; replaced afterwards by such objects of nature as mountains, caverns, and seas, for grandeur's sake. If, however, the nomenclature, the architecture, and the ritual of Phallism can be shown to have had an anterior existence, unmodified by the gross sentiments of animal love, and to be explainable on a hypothesis, not personal to the individual man, but common to mankind, then the Phallic theory, like the astronomical, must take a secondary rank, and be accepted only for what it is worth within its just limits; while its formal origin and outer development will be referable to that older and more general arkism, whose language it had adopted, whose symbols it had modified, whose truths it had degraded, whose pure and simple worship it had debased and defiled, but still continued to illustrate.

36. The Ophite theory is considered, by the authors of such books as the "Serpent Symbol," all sufficient to account for the prehistoric religious history of man. This seems to be a most presumptuous supposition. The theory has to do with no grand event in history, which might be supposed to have made an indelible impression upon the life of mankind; nor with any general idea of the sublime or terrible, german to worship; nor to any master sentiment of the human heart,—for fear is not so strong as love, nor so instructive as curiosity, nor so inventive as taste. The theory involves a mere classification of one kind of archæological facts, requiring the simplest treatment, and barren of all results but one, namely, a certain addition to the mass of evidence, otherwise collected, that some mysterious arkite intercourse has existence between all the known races of the world. Beyond this, Ophism has no story to tell; and instead of elucidating antiquity, adds to its confused obscurity. But Ophism is one of the great facts of history, notwithstanding; and enters not only largely but naturally into the composition of the arkite theory, which fully unfolds it, suggesting for its existence a new and satisfactory cause, and explaining all its forms and variations perfectly.

37. Then there is the great archæological problem of Devil-worship, for so many portions of mankind, the terrors of shamanism, the darker or fearful side of fetichism, all so nearly allied to serpent-worship, and all so nearly explainable by reference merely to the limitations of human will and human happiness, but none of them quite so. What shall be done with the unexplained residuum? Archæology claims it; but which archæological theory shall take charge of it? Certainly none of these theories of departments, departmental theories,—we need the new name,—already alluded to. No. To learn the language of Fear-worship, we must go back to the very beginning; to some age of weakness, calamity, and fright; to some irruption of wild beasts, or conflagration, or deluge; to some event so overwhelming that it could impress no less than all mankind, for a time no less than all the ages, the memory of which would be a simple figure of destruction and salvation combined, the symbol of which would be the intertwined names of God and the Devil. In the mountain and the ship, which rescued mankind from destruction in that event, we have the explanation of the origin of all Phallism and Egg-worship. In the waters which came so near destroying him, we have the explanation of the origin of all Ophism and Devil-worship. Both were made ornate in the tasteful idolatry of Greece, scientific on the clear-

eyed mountain-land of Persia, and spiritual among the justice-loving seers of Palestine. Before arkism, of course, was universal fetichism, like a great chaos, without law, or any method of self-expression; and after arkism, came all forms of thought and feeling possible for man to invent, but all budding from this Yggdrasil, and bearing flowers and fruit after the pattern of its undying life.

38. It is not, therefore, in violation of the great canon of modern science, but in obedience to it, that the arkite theory sets up its claims to universality.

39. What the great event was which so impressed the worshipful mind of the human race, or whether the chronic relationships of mankind in the earlier stages of their existence to mountains, or firm land in general, to boats, rafts, or stationary crannoges, and to all waters in general, may not compensate for the doubt which physical science cannot help throwing over the story of a Noachian deluge,—it will be hard to demonstrate. Geological investigation has as yet discovered no traces of a real event, such as is described in Mosaic and other records of the barbarous ages of the world. That science, however, has long taught the alternate submergence and emergence of dry land; and all its latest teachings are of the extreme antiquity of human life upon the earth, and of man's contemporaneous existence with other now extinct animals, during a glacial epoch, involving probably great floods, and opening into the comparatively modern age at the beginning of which men lived upon the waters, instead of on the land. The Arkite theory has nothing to say on these matters. It starts from a given point, the already established worship of the mountain, ship, and flood, without explaining how this worship was begotten; only denying that it was developed intellectually out of Fetichism, Ophism, Mithraism, Phallism, or any other known mythology; and affirming on the contrary, that it explains and embraces them.

Pending nominations, Nos. 534 to 539, and new nomination 540, were read.

And the Society was adjourned.